ELSEVIER

Volume 77, April 2012

Environmental and Experimental Botany

www.elsevier.com/locate/envexpbot

CONTENTS

INDEXED/ABSTRACTED IN: *Biological & Agricultural Index, BIOSIS Database, Current Contents, Elsevier BIOBASE/Current Awareness in Biological Sciences, EMBiology, Environmental Periodicals Bibliog, GEOBASE, INSPEC, PASCAL/CNRS Database, Science Citation Index. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®.*

Short-term responses of *Picea asperata* seedlings of different ages grown in two contrasting forest ecosystems to experimental warming
Z. Xu, H. Yin, P. Xiong, C. Wan and Q. Liu (Chengdu, China) 1

Contrasting reactions of roots of two coniferous tree species to aluminum stress
Y. Hirano (Kyoto, Japan and Nagoya, Japan), B. Frey and I. Brunner (Birmensdorf, Switzerland) 12

Plant water relations of leaves of pomegranate trees under different irrigation conditions
P. Rodríguez (San José de Las Lajas, Cuba), C.D. Mellisho, W. Conejero (Espinardo, Spain), Z.N. Cruz (San José de Las Lajas, Cuba), M.F. Ortuño, A. Galindo (Espinardo, Spain) and A. Torrecillas (Espinardo, Spain and Cartagena, Spain) 19

High S supply improves Fe accumulation in durum wheat plants grown under Fe limitation
S. Zuchi (Viterbo, Italy), S. Cesco (Bolzano, Italy) and S. Astolfi (Viterbo, Italy) 25

Ultrastructural and metabolic modifications at the plant–pathogen interface in *Mesembryanthemum crystallinum* leaves infected by *Botrytis cinerea*
B. Gabara, E. Kuźniak, M. Skłodowska (Łódź, Poland), E. Surówka and Z. Miszalski (Kraków, Poland) 33

Phenology of foliar and volatile terpenoid production for *Thuja plicata* families under differential nutrient availability
O.T. Burney (West Lafayette, IN, USA), A.S. Davis (Moscow, ID, USA) and D.F. Jacobs (West Lafayette, IN, USA) 44

Soil-nutrient availability modifies the response of young pioneer and late successional trees to elevated carbon dioxide in a Brazilian tropical environment
E.A.D. de Oliveira, A.U. Approbato, J.R. Legracie Jr. and C.A. Martinez (Sao Paulo, Brazil) 53

Different antioxidant defense responses to salt stress during germination and vegetative stages of endemic halophyte *Gypsophila oblanceolata* Bark.
A.H. Sekmen, I. Turkan, Z.O. Tanyolac, C. Ozfidan and A. Dinc (Izmir, Turkey) 63

Photosynthetic variation and carbon isotope discrimination in invasive wetland grasses in response to flooding
E.F. Waring and B.R. Maricle (Hays, KS, USA) 77

Speciation of uranium in plants upon root accumulation and root-to-shoot translocation: A XAS and TEM study
J. Laurette, C. Larue (Gif-sur-Yvette, France), I. Llorens (Grenoble, France), D. Jaillard (Orsay, France), P.-H. Jouneau (Minatec Grenoble, France), J. Bourguignon and M. Carrière (Grenoble, France) 87

Influence of uranium speciation on its accumulation and translocation in three plant species: Oilseed rape, sunflower and wheat
J. Laurette, C. Larue, C. Mariet (Gif-sur-Yvette, France), F. Brisset (Orsay, France), H. Khodja (Gif-sur-Yvette, France), J. Bourguignon and M. Carrière (Grenoble, France) 96

Proteomic analysis of rice response involved in reduction of grain yield under elevated ozone stress
H. Sawada (Abiko-shi, Japan), S. Komatsu, Y. Nanjo (Tsukuba, Japan), N.A. Khan and Y. Kohno (Abiko-shi, Japan) 108

Ecophysiological and transcriptomic responses of oak (*Quercus robur*) to long-term drought exposure and rewatering
N. Spieß (Tulln, Austria), M. Oufir (Belvaux, Luxembourg), I. Matušíková (Nitra, Slovak Republic), M. Stierschneider, D. Kopecky, A. Homolka, K. Burg, S. Fluch (Tulln, Austria), J.-F. Hausman (Belvaux, Luxembourg) and E. Wilhelm (Tulln, Austria) 117

(Contents continued on page VI)

Information about *Environmental and Experimental Botany* is available on the World Wide Web at the following URL address: http://www.elsevier.com/locate/envexpbot

This Home Page gives access to: the journal's Table of Contents service and ordering information and also enables users to search the WWW catalogue and Tables of Contents service (ESTOC) covering all Elsevier journals.

0098-8472(201204)77;1-P

Available online at www.sciencedirect.com

SciVerse ScienceDirect

(*Contents continued from outside back cover*)

Water-stress-induced thermotolerance of photosynthesis in bean (*Phaseolus vulgaris* L.) plants: The possible involvement of lipid composition and xanthophyll cycle pigments
J. González-Cruz and C. Pastenes (Casilla, Chile) 127
Phospholipid turnover and phospholipase D activity in tobacco hairy roots exposed to phenol
L.G. Sosa Alderete, G. Racagni, E. Agostini and M.I. Medina (Córdoba, Argentina) 141
Inoculation with *Ophiostoma novo-ulmi* subsp. americana affects photosynthesis, nutrition and oxidative stress in *in vitro Ulmus minor* plants
H. Oliveira, A. Sousa, A. Alves, A.J.A. Nogueira and C. Santos (Aveiro, Portugal) 146
Correlation between phenotype and proteome in the Ni hyperaccumulator *Noccaea caerulescens* subsp. *caerulescens*
G. Visioli, S. Vincenzi, M. Marmiroli and N. Marmiroli (Parma, Italy) 156
A new method of applying a controlled soil water stress, and its effect on the growth of cotton and soybean seedlings at ambient and elevated carbon dioxide
J.A. Bunce and M. Nasyrov (Beltsville, MD, USA) 165
Significant improvement of salt tolerance with 2-day acclimatization treatment in *Elaeagnus oxycarpa* seedlings
N. Murata, F. Iwanaga, A. Maimaiti, S. Imada, N. Mori, K. Tanaka and N. Yamanaka (Tottori, Japan) 170
Comparisons of annual pasture legumes in growth, ion regulation and root porosity demonstrate that *Melilotus siculus* has exceptional tolerance to combinations of salinity and waterlogging
N.L. Teakle, S. Bowman (Crawley, Australia), E.G. Barrett-Lennard (Crawley, Australia and South Perth, Australia), D. Real (Crawley, Australia and South Perth, Australia) and T.D. Colmer (Crawley, Australia) 175
No trade-off between hydraulic and mechanical properties in several transgenic poplars modified for lignins metabolism
H. Awad, S. Herbette, N. Brunel, A. Tixier (Aubière, France and Clermont-Ferrand, France), G. Pilate, H. Cochard and E. Badel (Clermont-Ferrand France and, Aubière, France) 185
Pb-induced ultrastructural alterations and subcellular localization of Pb in two species of *Lespedeza* by TEM-coupled electron energy loss spectroscopy
L. Zheng, T. Peer (Salzburg, Austria), V. Seybold (Oberkochen, Germany) and U. Lütz-Meindl (Salzburg, Austria) 196
Varying leaf-to-fruit ratios affect branch growth and dieback, with little to no effect on photosynthesis, carbohydrate or mineral pools, in different canopy positions of field-grown coffee trees
A.R.M. Chaves, S.C.V. Martins, K.D. Batista, E.F. Celin and F.M. DaMatta (Viçosa, Brazil) 207
High-resolution chemical imaging of labile phosphorus in the rhizosphere of *Brassica napus* L. cultivars
J. Santner (Vienna, Austria and Lancaster, UK), H. Zhang (Lancaster, UK), D. Leitner, A. Schnepf, T. Prohaska, M. Puschenreiter and W.W. Wenzel (Tulln, Austria) 219
Influence of water deficits at different times during olive tree inflorescence and flower development
H.F. Rapoport, S.B.M. Hammami (Cordoba, Spain), P. Martins (Cordoba, Spain and Elvas, Portugal), O. Pérez-Priego (Cordoba, Spain and Granada, Spain) and F. Orgaz (Cordoba, Spain) 227
Salinity-induced changes in caffeic acid derivatives, alkamides and ketones in three *Echinacea* species
A. Sabra, L. Adam, F. Daayf and S. Renault (Winnipeg, Canada) 234
Selenium antagonises the toxic effects of arsenic on mungbean (*Phaseolus aureus* Roxb.) plants by restricting its uptake and enhancing the antioxidative and detoxification mechanisms
J.A. Malik, S. Goel, N. Kaur, S. Sharma (Chandigarh, India), I. Singh (Ludhiana, India) and H. Nayyar (Ludhiana, India) 242
Citrate assisted phytoextraction of uranium by sunflowers: Study of fluxes in soils and plants and resulting *intra-planta* distribution of Fe and U
J. Mihalík (Prague, Czech Republic and Saint-Paul-lez-Durance, France; Prague-Suchdol, Czech Republic), P. Henner, S. Frelon, V. Camilleri and L. Février (Saint-Paul-lez-Durance, France) 249
Depth of water uptake in woody plants relates to groundwater level and vegetation structure along a topographic gradient in a neotropical savanna
D.R. Rossatto (Coral Gables, Brazil), L. de Carvalho Ramos Silva (Davis, CA, USA), R. Villalobos-Vega, L. da S.L. Sternberg (Coral Gables, FL, USA) and A.C. Franco (Coral Gables, Brazil) 259
Alfalfa yield under elevated CO_2 and temperature depends on the *Sinorhizobium* strain and growth season
Á. Sanz-Sáez, G. Erice, J. Aguirreolea, J.J. Irigoyen and M. Sánchez-Díaz (Pamplona, Spain) 267
Effects of climate change on leaf litter decomposition across post-fire plant regenerative groups
S. Saura-Mas (Barcelona, Spain), M. Estiarte, J. Peñuelas (Bellaterra, Spain) and F. Lloret (Barcelona, Spain) 274
Silicon availability changes structural carbon ratio and phenol content of grasses
J. Schaller, C. Brackhage and E.G. Dudel (Tharandt, Germany) 283